REMARKS

Claims 26-38, 53-61, and 79, as amended, are pending in the application for the Examiner's review and consideration. Independent claims 26, 53, and 79 were amended to recite that the buccal spray composition is adapted for transmucosal absorption of the active compound through the oral mucosa when administered to a mammal to provide the active compound in the systemic circulatory system of the mammal. (*See e.g.,* Specification, page 2, lines 2-5 and Figure 1). Claim 59 was amended to replace the term "miglyol" with --one or more fatty acid esters--. As no new matter has been added, Applicant respectfully submits that these amendments be entered. Applicant respectfully submits that all claims are in condition for allowance.

THE REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 59 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite for the reasons set forth on page 2 of the Office Action. Specifically the Examiner alleges that the trademark miglyol cannot be claimed. Applicant has amended claim 59 to replace the term "miglyol" with the phrase --one or more fatty acid esters--. Miglyol is simply a trademark for fatty acid esters (*See, e.g.*, Hawley's Condensed Chemical Dictionary, 13th ed., John Wiley & Sons, NY, p. 754 ("Hawley's")). A copy of page 754 of Hawley's is attached hereto for the Examiner's convenience. For the above reason, Applicant respectfully requests that the rejection of claim 59 under 35 U.S.C. § 112, second paragraph be reconsidered and withdrawn.

THE REJECTION UNDER 35 U.S.C. § 102(b)

Claims 26-34 and 37-38 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,354,616 to Singer et al. ("Singer") for the reasons set forth on pages 2-3 of the Office Action. Applicant respectfully traverses.

Singer discloses methods for preventing or treating gingivitis (inflammation of the gums) or periodontitis (inflammation of the tissues that support the teeth) comprising *topically* administering to gingival tissue of the oral cavity a composition comprising a safe and effective amount of a selective histamine-2 receptor antagonist compound (*See, e.g.*, Singer, column 2, lines 32-37 and column 1, lines 16-17 and 26-27).

Singer does not anticipate independent claim 26, as amended, or dependent claims 27-34 and 37-38 since Singer does not disclose each and every feature of independent claim 26. Specifically, there is no disclosure or even a suggestion in Singer of a composition

that is adapted for transmucosal absorption of the active compound through the oral mucosa when administered to a mammal to provide the active compound in the systemic circulatory system of the mammal, as presently claimed. Singer merely discloses *topical* administration to gingival tissue and periodontium of the oral cavity and is completely silent as to transmucosal absorption to provide the active compound in the systemic circulatory system. Clearly, to treat gingivitis or periodontitis one would want the composition to remain in the oral cavity and not to be delivered to the systemic circulatory system. Indeed, Singer states that his disclosed "topical, oral carrier" denotes a composition "which is administered topically to the oral cavity, held therein for a period of time, and then is largely expectorated rather than being swallowed" (*See, e.g.*, Singer, column 15, lines 26-30). Clearly, there is no disclosure or suggestion of transmucosal absorption to provide an active compound in the systemic circulatory system, as presently claimed. Since anticipation requires that each and every element of a claim must be disclosed by a single prior art reference, Singer cannot anticipate claims 26-34 and 37-38. For the above reasons, Applicant respectfully requests that the rejection of claims 26-34 and 37-38 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

Claims 26, 30-33, 37-38, 53, 56, 58-61, and 79 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,719,197 to Kanios et al. ("Kanios") for the reasons set forth on pages 3-4 of the Office Action. Applicant respectfully traverses.

Kanios discloses compositions and methods for the topical adminitration of pharmaceutically active agents to a mammal in need thereof, in particular, anesthesia and local anesthetic agents (*See, e.g.*, Kanios, column 1, lines 29-33).

Kanios does not anticipate claims 26, 30-33, 37-38, 53, 56, 58-61, and 79 since Kanios does not disclose each and every feature of independent claim 26. There is absolutely no disclosure or suggestion in Kanios of a composition that is that is adapted for transmucosal absorption of the active compound through the oral mucosa when administered to a mammal to provide the active compound in the systemic circulatory system of the mammal, as presently claimed. Kanios merely discloses compositions that are applied topically and then have a local effect, such as local anesthetic agents. While Kanios discloses other pharmaceutical agents, there is, however, no disclosure or suggestion of a composition that adapted for transmucosal absorption of an active compound to provide the active compound to the systemic circulatory system, as presently claimed, or any disclosure on how to get a systemic effect. Since anticipation requires that each and every element of a claim must be disclosed by a single prior art reference, Kanios cannot anticipate claims 26, 30-33,

37-38, 53, 56, 58-61, and 79. For the above reasons, Applicant respectfully requests that the rejection of claims 26, 30-33, 37-38, 53, 56, 58-61, and 79 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

THE REJECTION UNDER 35 U.S.C. § 103(a)

Claims 27-29, 34-36, 54-55, and 57 were rejected under 35 U.S.C. § 103(a) as being obvious over Kanios in view of Singer for the reasons set forth on page 5 of the Office Action. Applicant respectfully traverses.

As the Examiner is well aware the proper inquiry for obviousness is whether the references disclose each and every feature of the claim (*See, e.g.*, MPEP, 1242) and whether the references suggest the invention and provides one of ordinary skill in the art with a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991); *In re O'Farrell* 853 F.2d 894, 7 U.S.P.Q. 2d 1673 (Fed. Cir. 1988). Neither Kanios nor Singer render the present claims obvious since neither of the references, either alone or in combination, (a) discloses each and every feature of the invention and (b) fails to provide a reasonable expectation of success.

As discussed above, there is no disclosure or suggestion of a buccal spray composition adapted for transmucosal absorption of the active compound through the oral mucosa when administered to a mammal to provide the active compound in the systemic circulatory system of the mammal. Kanios and Singer simply disclose topical administration that has a local effect. There is, however, no disclosure or suggestion in either Kanios or Singer of a composition applied to the oral mucosa that provides an active compound to the systemic circulatory system or any disclosure on how to get a systemic effect. Applicant has unexpectedly discovered that the claimed compositions provide an active compound that is rapidly absorbed through the oral mucosa which advantageously results in a fast onset of action (*See, e.g.*, Specification, page 2, lines 2-5) and avoids first pass metabolism (*See, e.g.*, Specification, page 7, lines 9-11 and Figure 1). Clearly, Kanios or Singer, either individually or in combination, do not provide the required reasonable expectation that a composition applied to the oral mucosa could provide an active compound to the systemic circulatory system, as presently claimed. For the above reasons, Applicant respectfully requests that the rejection of claims 27-29, 34-36, 54-55, and 57 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

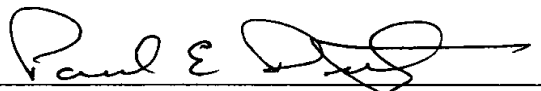
CONCLUSIONS

All claims are believed to be in condition for allowance. Should the Examiner have any questions, Applicant respectfully invites the Examiner to contact the undersigned attorneys for Applicant to arrange for an interview in an effort to expedite the prosecution of this matter.

No fee is believed to be due for this submission. Should any fee be due, please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150.

Respectfully submitted,

Date August 6, 2003



for: Paul E. Dietze (Reg. No. 45,627)
Thomas G. Rowan (Reg. No. 34,419)

PENNIE & EDMONDS LLP
1667 K Street, N.W.
Washington, DC 20006
(202) 496-4400

Enclosure

Hawley's

Condensed Chemical

Dictionary

THIRTEENTH EDITION

Revised by

Richard J. Lewis, Sr.

JOHN WILEY & SONS, INC.
New York • Chichester • Weinheim • Brisbane • Singapore • Toronto

micron size range (20–150μ), they can be made of glass, silica, various high polymers or proteins (gelatin, albumen). The silica type can be incorporated in plastics, elastomers, and metals for weight-saving purposes; they can also be bonded to one another to give extremely thin sheets of silica. Microspheres coated with layers of Teflon and beryllium are used to contain the deuterium and tritium used in laser fusion experimentation.

Polymeric or proteinaceous microspheres are used to introduce drugs to specific locations in the body. The coating material acts as a semipermeable membrane, permitting slow release and high concentration of a drug at the desired site. Enzymes, hormones, and other biochemical substances can be temporarily immobilized by this technique.

microgram (μg). One millionth (10^{-6}) gram.

"Microlith" *[Ciba-Geigy].* TM for organic pigment stir-in dispersions compatible with a broad range of organic solvents and polymers.

micrometer. (μm).
One millionth (10^{-6}) meter, or 1 micron (10,000 Å units).

micron. See micrometer.

micronutrient. See trace element.

microorganism. An organism of microscopic size generally considered to include bacteria, molds (actimonyces), and fungi, but excluding viruses.
See bacteria.

microprobe. An instrument for chemical microanalysis of a sample, in which a beam of electrons is focused on an area less than a micrometer in diameter. The characteristic X rays emitted as a result are dispersed and analyzed in a crystal spectrometer to provide a qualitative and quantitative evaluation of chemical composition.
See microanalysis.

microscope. See optical microscope; electron microscope; field-ion microscope; ultramicroscope.

microscopy, chemical. Use of a microscope primarily for study of physical structure and identification of materials. This is especially useful in forensic chemistry and police laboratories. Many types of microscopes are used in industry; most important are the optical, ultra-, polarizing, stereoscopic, electron, and X-ray microscopes. Organic dyes of various types are used to stain samples for precise identification.

"MicroSelect" *[Fluka].* TM for Ultra pure basic reagents for use in biochemistry and the life sciences where relatively large amounts of reagents are required.

"Microsol" *[Ciba-Geigy].* TM for aqueous pigment dispersions for spin-coloring of regenerated cellulose fibers.

microsphere. See microencapsulation.

microwave spectroscopy. A type of absorption spectroscopy used in instrumental chemical analysis that involves use of that portion of the electromagnetic spectrum having wavelengths in the range between the far infrared and the radiofrequencies, i.e., between 1 mm and 30 cm. Substances to be analyzed are usually in the gaseous state. Klystron tubes are used as microwave source.

middle oil. A fraction distilled from coal tar.
See coal tar.

middlings. The granular part of the interior of the wheat berry obtained in the process of milling. This product, when reduced by grinding to the desired fineness, produces the finest quality of flour.

Midgley, Thomas, Jr. (1889–1944). An American chemist and inventor. One of the most creative and brilliant chemists of his era, Midgley's early work was in the field of rubber chemistry and technology, especially in the development of synthetic and substitute rubbers that were being introduced in the 1930s. He worked with Kettering at General Motors and then became vice president of Ethyl Corporation, as well as of the Ohio State University Research Foundation. His innovative genius was responsible for the development of organic lead compounds for antiknock gasoline and later for the discovery of fluorocarbon refrigerants for which he did the basic research. He was recipient of many of chemistry's highest honors including the Nichols medal, the Perkin medal, and the Priestly medal.

Miescher degradation. Adaptation of the Barbier-Wieland carboxylic acid degradation to permit simultaneous elimination of three carbon atoms, as in degradation of the bile acid side chain to the methyl ketone stage. Conversion of the methyl ester of the bile acid to the tertiary alcohol, followed by dehydration, bromination, dehydrohalogenation, and oxidation of the diene yields the required degraded ketone.

"Miglyol" *[Huls America].* TM for fatty acid esters.
See "Witepsol."

Mignonac reaction. Formation of amines by catalytic hydrogenation of aldehydes and ketones in liquid ammonia and absolute ethanol in the presence of a nickel catalyst.

migration. Movement of a substance from one material to another with which it is in intimate con-